

**CALIFORNIA ALTERNATIVE ENERGY AND  
ADVANCED TRANSPORTATION FINANCING AUTHORITY**

*Request to Approve Project for SB 71 Sales and Use Tax Exclusion (STE)<sup>1</sup>*

**CE OBSIDIAN ENERGY, LLC  
Application No. 11-SM012**

**Monday, August 29, 2011**

Prepared By: *Heather Williams*

**SUMMARY**

**Applicant** – CE Obsidian Energy LLC and its Affiliates: CE Black Rock Holdings LLC, CE Obsidian Holdings LLC, Black Rock 1 LLC, Black Rock 2 LLC, Black Rock 3 LLC and Black Rock 4 LLC

**Location** – Calipatria, Imperial County

**Industry** – Geothermal

**Project** – New Geothermal Brine Extraction, Handling and Injection Facility

**Value of Qualified Property** – \$174,453,978

**Estimated Sales and Use Tax Exclusion Amount<sup>2</sup>** – \$14,130,772

**Estimated Net Benefits** - \$5,053,640

**Application Score -**

Fiscal Benefits Points:	828
<u>Environmental Benefits Points:</u>	<u>530</u>
<b>Net Benefits Score:</b>	<b>1,358</b>
<u>Additional Benefits Points:</u>	<u>40</u>
<b>Total Score:</b>	<b>1,398</b>

**Staff Recommendation** – Approval

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<sup>1</sup> All capitalized terms not defined in this document are defined in the Program’s statute and regulations.

<sup>2</sup> This amount is calculated based upon the average statewide sales tax rate of 8.1%.

**THE APPLICANT**

CE Obsidian Energy LLC was incorporated on October 24, 2001 in Delaware and is headquartered in Calipatria, California. CE Obsidian Energy LLC and its Affiliates: CE Black Rock Holdings LLC, CE Obsidian Holdings LLC, Black Rock 1 LLC, Black Rock 2 LLC, Black Rock 3 LLC and Black Rock 4 LLC (“Obsidian” or “Applicant”) plan to construct a geothermal power project in Imperial County.

The ownership structure of Obsidian is described in Attachment A.

**THE PROJECT**

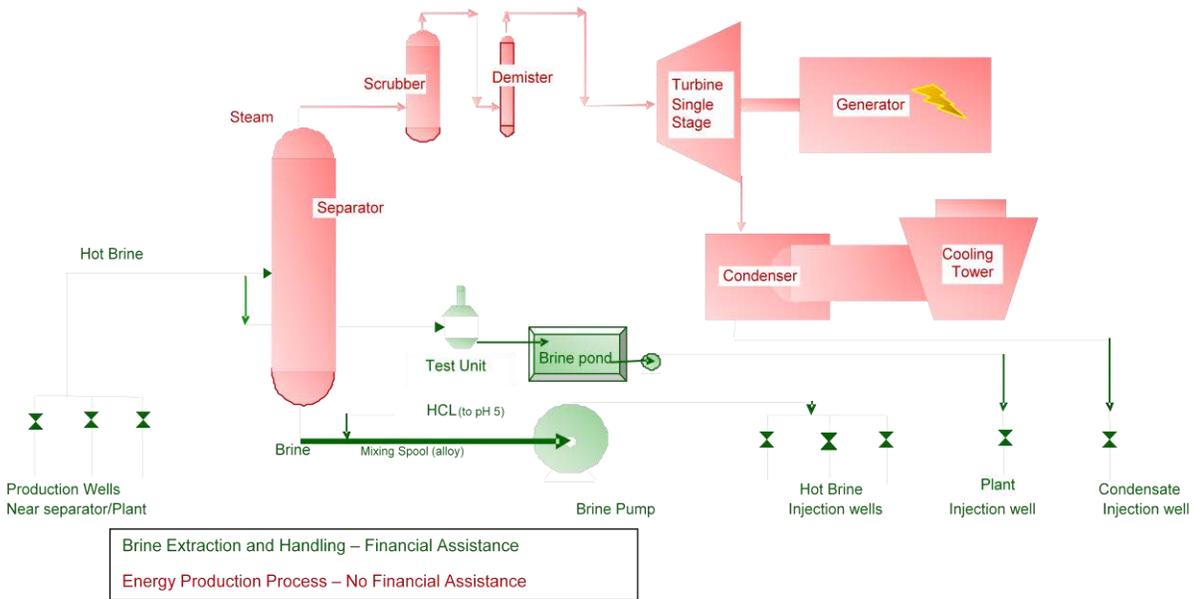
The Project is the portion of the equipment within the overall Black Rock 1, 2, 3, and 4 Geothermal Power facility (“Black Rock Project”), which is directly related to brine extraction, handling, and injection of extracted geothermal brine. After extraction, the brine as an alternative source fuel is later converted to a form of steam suitable for subsequent electric generation. In its entirety, the Black Rock Project is a 235 megawatt (“MW”) geothermal electrical power generation facility in the Salton Sea Known Geothermal Resource Area (SSKGRA) in Imperial County, California. The Application under consideration is specific to the production of geothermal brine as a useable alternative source fuel, a component of the larger Black Rock Project.

The process to extract geothermal fluids from the SSKGRA involves several different activities. The first involves extraction of the hot, high-pressure hyper-saline geothermal fluid from deep within the geothermal reservoir geologic structure in the SSKGRA. The extraction method consists of a geothermal production well at a depth over 6,000 feet, and well head piping to safely control the brine flow. From the well head piping, the hot, hyper-saline brine is transported via alloy pipelines to the brine/steam processing equipment. This equipment takes the feed of the hot brine from the production pipelines and then flashes and conditions the steam to a quality acceptable for injection to a geothermal steam turbine. The equipment to flash and condition the steam is not included in this Application as that part of the process is considered to be utilizing the Alternative Source fuel. The equipment included in this Application is entirely for the purpose of producing an Alternative Source fuel.

Also included in the Application and integral to the extraction and fuel production processes is the handling of the balance of the brine. The spent brine, which is not flashed to steam, is transported via alloy pipelines to injection wells by using high pressure, high volume specially designed pumps. The injection wells have alloy well head piping and controls to manage the flow of brine to each injection well. The injection wells will have alloy casing to a depth of approximately 2,500 feet and wells to over 6,000 feet deep. Both the production and injection wells are required for the geothermal fluid extraction process as there is no discharge permitted, so all spent brine (remaining liquid) must be injected back into the reservoir as part of the overall process. This process is what allows the energy source to remain a renewable source.

According to the Applicant, due to harsh characteristics (high temperature, high pressure, excessive corrosive properties, and hyper-salinity) of the geothermal hot-brine extracted from the Applicant’s wells in the SSKGRA, the best available technology to economically and physically utilize the brine is to implement the processes and final conditioning as outlined in the Application.

**Single Flash Geothermal Power Plant Flow Diagram**



**ANTICIPATED COSTS OF QUALIFIED PROPERTY**

The anticipated Qualified Property purchases are listed below:

Injection pumps: 12 brine injection pumps	\$ 7,186,909
Production test unit: three atmospheric flash vessels	1,497,273
Rock mufflers: three re-enforced structural concrete mufflers	2,994,546
In-plant piping, valves and controls	5,602,439
Production brine piping	26,000,000
Injection brine piping	17,000,000
Aerated and condensate injection piping	6,500,000
Isolation valves, metering and controls	12,069,655
Production brine casing	50,362,470
Injection brine casing	20,518,043
Aerated and condensate casing	2,797,915
Wellhead assembly and master valves	6,528,468
Geothermal well field drill rig	18,390,805
<b>Total</b>	<b><u>\$174,453,978</u></b>

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*Note: The Qualified Property purchases reported in the Application and shown here in staff's report are estimated costs. At the termination of the conveyance/reconveyance agreement a finalized Project equipment list will be prepared detailing the value of the Project equipment conveyed and reconveyed and detailing the actual tax benefit realized pursuant to Revenue and Tax Code Section 6010.8. Variations from the costs shown in the Application and in this report may occur prior to the closing due to increased costs of certain components of the Project from original estimates, and other reasons. In addition, such costs may vary after closing due also to increased costs, as well as common design and equipment modifications during construction, differences in equipment due to future changes in law or regulation, or for other reasons.*

## **TIMELINE**

Obsidian anticipates it will begin purchasing Qualified Property as early as May 2012 with the equipment expected to be placed in service beginning in January 2015. Black Rock 1, 2, 3 and 4 are expected to be placed in commercial operation in January 2015, March 2014, May 2015 and June 2016, respectively.

## **PROJECT EVALUATION**

### **NET BENEFITS**

The total cost of the Qualified Property purchases is anticipated to be \$174,453,978 and the total net benefits are valued at \$5,053,640 for the Project. The Project received a Total Score of 1,398 points, which exceeds the required 1,000 point threshold and a total Environmental Benefits Score of 530 points, which exceeds the 100 point threshold.

- A. Fiscal Benefits (828 points).** The net present value of the total fiscal benefits over the lifetime of the Qualified Property is derived from the Applicant's sales taxes, personal income taxes paid by the firm's employees, firm taxes on profits, property taxes and other indirect fiscal benefits of the Applicant which amounts to \$11,697,269, resulting in a Fiscal Benefits Score of 828 points for the Project.
  
- B. Environmental Benefits (530 points).** The Project will result in \$7,487,143 of total pollution benefits over the life of the Facility resulting in an Environmental Benefits Score of 530 points for the Project. These benefits derive from the extraction of geothermal brine, which offsets the need for fossil fuel derived sources of energy.
  
- C. Additional Benefits (40 of 200 points).** Applicants may earn up to 200 additional points for their Total Score. The Applicant submitted information and received 40 additional points.
  - 1. Permanent Jobs (0 of 40 points).** The Applicant's Project will support a total of 31 permanent jobs at its Facility. CAEATFA estimates that approximately three of these jobs will be attributable to a marginal increase in jobs created due to the

approved STE. Zero points were awarded because the marginal increase in jobs does not meet the required threshold.

2. **Construction Jobs (0 of 20 points).** The Applicant’s Project will support a total of 350 construction jobs at its Facility. CAEATFA estimates that approximately 36 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE. Zero points were awarded because the marginal increase in jobs does not meet the required threshold.
  
3. **Unemployment (40 of 40 points).** The Applicant’s Project is located in Imperial County, which has an unemployment rate of approximately 29 percent. Since this is above 110 percent of the statewide unemployment average, which is currently at 12.4 percent, the Project was awarded an additional 40 points.

## **FINDING OF PUBLIC INTEREST**

### **A. Minimum Purchase Compliance.**

Per CAEATFA regulations<sup>3</sup> an Applicant is required to purchase at least 25 percent of the Qualified Property within one year of the Authority’s approval of the Application and complete all purchases within three years. However, per the CAEATFA Regulations, upon a finding that it is in the public interest and advances the purposes of the Program, the Authority may waive these standard requirements.<sup>4</sup>

Obsidian has requested that CAEATFA waive these requirements. Unlike other geothermal resources the SSKGRA consists of hot brine, the harsh characteristics of which involve unique regulatory, engineering, financial and other challenges. As a result the timeframe for developing geothermal resources within the SSKGRA is anticipated to be longer than the Program’s standard requirements.

The Project is in the public interest and advances the purpose of the program as it is developing geothermal brine as an Alternative Source to be used to generate power; geothermal power is specifically listed as an Alternative Source for which CAEATFA is authorized to provide assistance. The Black Rock Project will, according to the Applicant, be one of the largest geothermal facilities in the United States and will assist in diversifying California’s renewable energy portfolio. The Project will assist the Black Rock Project in contributing to California’s Renewables Portfolio Standard (RPS) requirements and in providing base load power to critical markets in Southern California.

Therefore, as authorized by the Regulations, the Executive Director requests that the Authority find that this Project is in the public interest and advances the purposes of the Program and waive the requirements of Sections 10035(c)(1) pursuant to sections 10035(c)(1)(i-ii).

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<sup>3</sup> 4 CCR 10035(C)(1)

<sup>4</sup> 4 CCR 10035(C)(1)(i-ii)

## **STATUS OF PERMITS/OTHER REQUIRED APPROVALS**

All necessary permits have been granted by applicable state and local government agencies for Black Rock 1, 2 and 3 units, except for the US Army Corps of Engineers Part 404 permit (discharge of dredged or fill material) and the Colorado River Basin Water Quality Control Board Part 401 Permit (water quality certification). The Part 404 and Part 401 permits are expected to issue by September 2011.

The Applicant anticipates the permitting for Black Rock 4 unit will be submitted in the first quarter 2012, and expects approval within 19 months following submittal.

## **LEGAL QUESTIONNAIRE**

Staff has reviewed the Applicant's responses to the questions contained in the Legal Status portion of the Application. The Executive Director, in consultation with legal counsel, has determined that the legal issues disclosed do not affect the financial viability or legal integrity of the Applicant.

## **CAEATFA FEES**

In accordance with CAEATFA Regulations,<sup>5</sup> the Applicant has paid CAEATFA an Application Fee of \$5,000 and will pay CAEATFA an Administrative Fee of up to \$350,000.

## **RECOMMENDATION**

Staff recommends approval of:

- pursuant to 4 CCR 10035(C)(1)(i), a finding that it is in the public interest and advances the purposes of the Program to waive the requirement that the first year purchases of Qualified Property are at least twenty-five percent of the total amount listed in the approved resolution in order to accommodate the completion of the Project;
- pursuant to 4 CCR 10035(C)(1)(ii), a finding that it is in the public interest and advances the purposes of the Program to waive the requirement that all purchases of Qualified Property be made within three years of the Application approval in order to accommodate the completion of the Project; and
- Resolution No. 11-SM012 for CE Obsidian Energy LLC's purchase of Qualified Property in an amount not to exceed \$174,453,978 anticipated to result in an approximate sales and use tax exclusion value of \$14,130,772.

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<sup>5</sup> California Code of Regulations Title 4, Division 13, Article 2, Section 10036

**RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A TITLE  
CONVEYANCE AGREEMENT WITH CE OBSIDIAN ENERGY, LLC**

August 29, 2011

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the “Authority” or “CAEATFA”) has received the Application of **CE Obsidian Energy LLC and its Affiliates: CE Black Rock Holdings LLC, CE Obsidian Holdings LLC, Black Rock 1 LLC, Black Rock 2 LLC, Black Rock 3 LLC and Black Rock 4 LLC** (the “Applicant”), for financial assistance in the form of a conveyance/reconveyance of title agreement (the “Agreement”) regarding tangible personal property for the design, manufacture, production, or assembly of Advanced Transportation Technologies or Alternative Source products, components, or systems (“Qualified Property”) as more particularly described in the staff summary and in the Applicant’s Application to the Authority (collectively, the “Project”); and

WHEREAS, the Applicant has requested the Authority to enter into the Agreement transferring title of Project equipment with an estimated cost not to exceed \$174,453,978 over a period of four years; and

WHEREAS, the Agreement will provide that the Applicant will, prior to any use of the Qualified Property, transfer title at no cost to the Authority from time to time as purchases of Qualified Property are made and the Authority will then transfer title back to the Applicant without having taken possession of the Qualified Property; and

WHEREAS, the Applicant believes that this form of financial assistance will enable it to avail itself of the benefits of an exclusion from sales and use taxes relative to the Qualified Property pursuant to California Revenue and Taxation Code Section 6010.8; and

WHEREAS, approval of the terms of the Agreement and authority for the Executive Director, Deputy Executive Director, or Chair of the Authority to execute the necessary documents to effectuate the Agreement is now sought;

NOW, THEREFORE, BE IT RESOLVED by the California Alternative Energy and Advanced Transportation Financing Authority, as follows:

Section 1. The Project constitutes a “project” within the meaning of Public Resources Code Section 26003(g)(2).

Section 2. The requested conveyance agreement constitutes “financial assistance” within the meaning of Public Resources Code Section 26003(e)(2).

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Section 3. The Applicant is a “participating party” within the meaning of Public Resources Code Section 26003(f).

Section 4. The Executive Director, Deputy Executive Director, or Chair of the Authority (the “Authorized Signatories”) are hereby authorized for and on behalf of the Authority to approve any changes to the Project as the Executive Director shall deem appropriate, provided that the amount of the Qualified Property to be purchased may not be increased above the amount approved by the Authority.

Section 5. The proposed form of the Agreement between the Applicant and the Authority, as filed with the Authority prior to this meeting, is hereby approved. The Authorized Signatories are hereby authorized and directed, for and on behalf and in the name of the Authority, to execute, acknowledge and deliver to the Applicant the Agreement in substantially the form filed with or approved by the Authority, with such insertions, deletions or changes therein as the Authorized Signatory executing the same may require or approve, and with particular information inserted therein in substantial conformance with the staff summary and in the Applicant’s Application to the Authority, such approval to be conclusively evidenced by the execution and delivery thereof. The Authority understands and agrees that pursuant to the terms of the Agreement, the obligations of the Applicant may, under some circumstances, be carried out or assumed by a successor or assignee entity, or by an affiliate of the Applicant.

Section 6. In Approving the Project, the Board finds that due to the unique nature of the project and the anticipated benefits, it is in the public interest and will advance the purposes of the Program to waive the regulatory requirement that the Applicant utilize at least twenty-five (25) percent of the sales and use tax exclusion within one year of the date of this resolution. Similarly, the Board finds that it is in the public interest and will advance the purposes of the Program to extend the regulatory requirement that the entire approved amount be utilized within three years of the date of this resolution and instead require the entire amount to be utilized within four years of the date of this resolution.

Section 7. Each of the Authorized Signatories, acting alone, is hereby authorized and directed to do any and all ministerial acts, including (without limitation) the execution and delivery of any and all documents and certificates they may deem necessary or advisable in order to consummate the Agreement and otherwise effectuate the purposes of this resolution.

Section 8. The Applicant shall assure CAEATFA that all Qualified Property conveyance pursuant to the Agreement shall be installed, maintained and operated in compliance with all applicable local, state and federal laws.

Section 9. The Agreement shall only apply to Qualified Property that the Applicant certifies will be installed, maintained and operated at facilities within the State of California.

Section 10. The adoption by the Authority of this Resolution for the Applicant shall not be referred to in any application before any governmental agency as evidence of the feasibility,

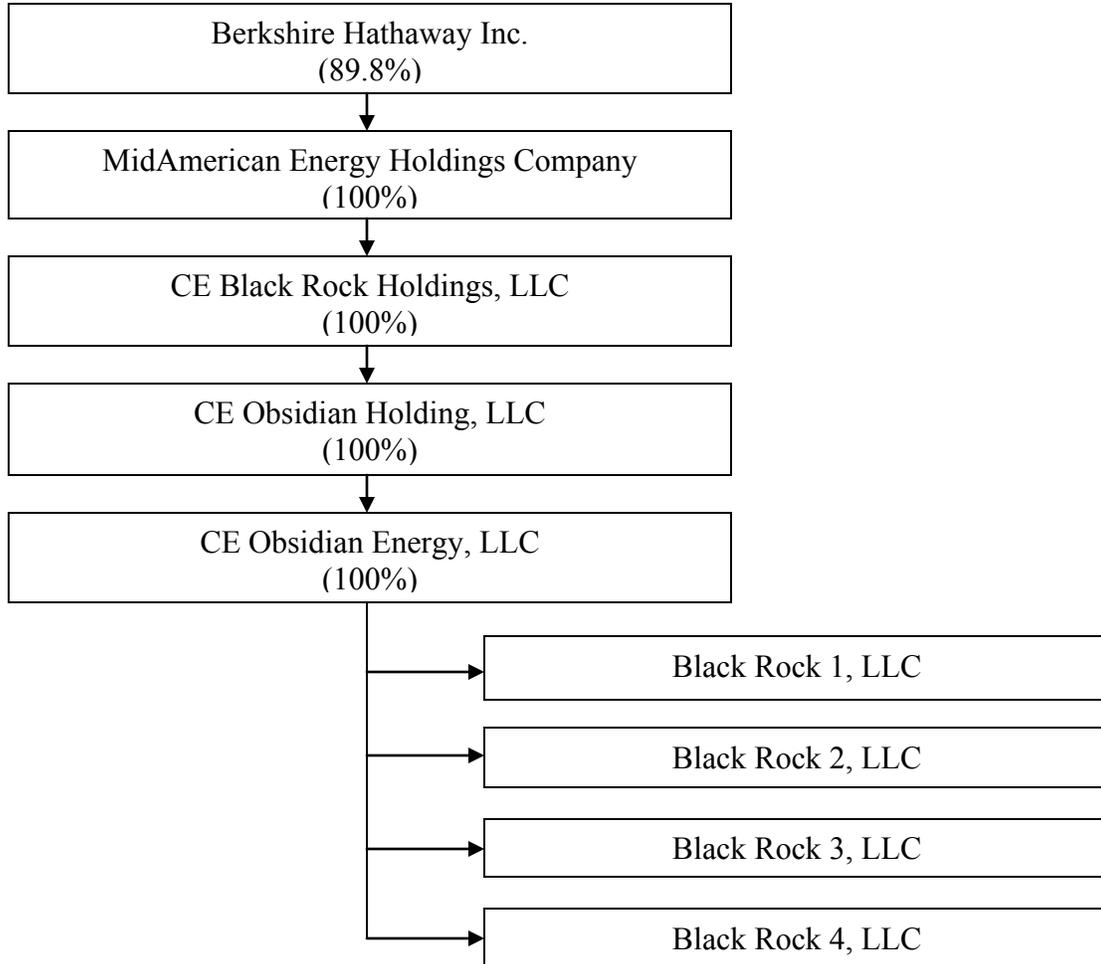
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practicality or suitability of the Project or in any application for any required permission or authority to acquire, construct or operate the Project.

Section 11. This Resolution is effective immediately and will remain in full force and effect unless the Regulatory Agreement, as defined in CAEATFA Regulations Section 10035(A), is not executed within thirty (30) days of the date of this Resolution. The Executive Director may extend the thirty days if necessary.

ATTACHMENT A

The ownership structure of CE Obsidian Energy, LLC is as follows:



The corporate officers of Berkshire Hathaway Inc. are:

Warren E. Buffet, Chairman and Chief Executive Officer  
Charles T. Munger, Vice Chairman  
Marc D. Hamburg, Senior Vice President and Chief Financial Officer  
Sharon L. Heck, Vice President  
Daniel J. Jaksich, Vice President and Controller  
Mark D. Millard, Vice President  
Forrest N. Krutter, Secretary  
Rebecca K. Amick, Director of Internal Auditing